



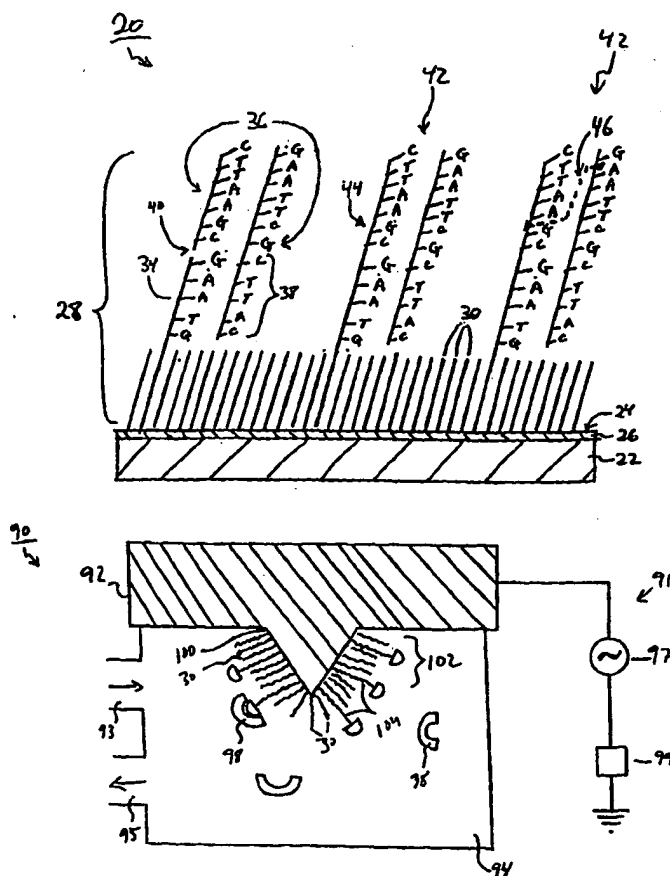
## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(54) Title: ELECTRONIC-PROPERTY PROBING OF BIOLOGICAL MOLECULES AT SURFACES

## (57) Abstract

A technique for immobilizing biological molecules, in particular nucleic acid strands, is described. Biological molecules immobilized at surfaces can be used in electron-transfer detection techniques in which a binding partner of a biological molecule is brought into proximity of the surface-immobilized biological molecule, an electrical potential created between the two biologically-binding species, and electron transfer through the species determined. Another technique involves immobilizing a biological molecule such as a protein, DNA, etc., at a surface via a self-assembled monolayer, affecting the biological molecule via, for example, biological binding, inducing a change in conformation via a prion, etc., and detecting an electronic property change in the molecule via a change in impedance associated with an electronic circuit addressed by the biological molecule. This technique facilitates combinatorial array detection articles.



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# INTERNATIONAL SEARCH REPORT

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PCT/US 98/01144

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 6 C12Q1/68 G01N33/53

According to International Patent Classification(IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 6 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 93 22678 A (BAYLOR COLLEGE MEDICINE ;HOUSTON ADVANCED RES CENTER (US); MASSACH) 11 November 1993 see whole document, esp. claims and pages 13, line 9 ff	1-12, 19-39
X	--- CUNNINGHAM B. C. &WELLS J. A.: "Comparison of a structural and a functional epitope" J. MOL. BIOL., vol. 234, - 1993 pages 554-563, XP002071221 see esp. results page 555, 2.column and figure 1a --- -/--	40

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☒ Patent family members are listed in annex.

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## INTERNATIONAL SEARCH REPORT

I. International Application No

PCT/US 98/01144

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	WO 97 44651 A (AUSTRALIAN MEMBRANE & BIOTECH ;UNIV SYDNEY (AU); HARDING MARGARET) 27 November 1997 see whole doc. esp. page 7 ,line 16 - page 8 ,line 19 and claims ----	1-12,20, 36
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Information on patent family members

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